

WHAT IS CLAIMED IS:

1. An isolator apparatus comprising:

a fluid isolator assembly including a flexible diaphragm and a pressure chamber having a flow passage opened to the pressure chamber; and

5 a floating isolator body including an elastomeric damping element in series with the fluid isolator assembly and floatably interfaced with the flexible diaphragm to provide a transmission path between the floating isolator body and the fluid isolator assembly through the flexible diaphragm.

10

2. The isolator apparatus of claim 1 wherein the floating isolator body includes opposed body plates and the elastomeric damping element is formed therebetween.

15

3. The isolator apparatus of claim 2 wherein the elastomeric damping is toroid shaped.

20

4. The isolator apparatus of claim 1 and further including a load button interposed between the floating isolator body and the flexible diaphragm to provide a load or transmission interface between the floating isolator body and the flexible diaphragm.

5. The isolator apparatus of claim 1 wherein the flexible diaphragm is formed of a non-elastic flexible fabric.

6. The isolator apparatus of claim 1 wherein the flexible diaphragm is clamped relative to a rigid base plate to form the pressure chamber therebetween and the flow passage extends through the rigid base plate to pressurize the pressure chamber.

5 7. The isolator apparatus of claim 1 and further including a cradle having a cradle cavity and the fluid isolator assembly is disposed in the cradle cavity.

8. The isolator apparatus of claim 7 wherein the cradle includes at least one load interface to support a load in a collapsed mode of the fluid isolator assembly.

10

9. The isolator apparatus of claim 8 wherein the at least one load interface includes a plurality of plugs to support the load in the collapsed mode of the fluid isolator assembly.

15 10. An isolator apparatus comprising:

a fluid isolator assembly including a flexible diaphragm and a pressure chamber having a flow passage opened to the pressure chamber; and

a floating isolator body separate from the fluid isolator assembly and floatably interfaced relative to the flexible diaphragm of the fluid isolator assembly and the floating isolator body including a viscoelastic damping element in series with the fluid isolator assembly.

20

11. The isolator apparatus of claim 10 including a load button interfaced between the floating isolator body and the flexible diaphragm.

25

12. The isolator apparatus of claim 11 wherein the load button is connected to one of the floating isolator body or the diaphragm or both.

13. The isolator apparatus of claim 11 wherein the diaphragm of the fluid isolator assembly is secured between a rigid base and a ring forming a cylindrical cavity and the load button is disposed in the cylindrical cavity in a collapsed mode of the fluid isolator assembly and is interfaced above the cavity in an expanded mode of the fluid isolator assembly.

10 14. A servo writing apparatus comprising
a frame;
a relatively rigid table having a servo writing assembly supported relative to
the rigid table; and
at least one isolator interposed between the relatively rigid table and the frame
15 including an elastomeric damping element in series with a fluid isolator
assembly.

15. The servo writing apparatus of claim 15 wherein the servo writing assembly includes:
20 a multiple disc spindle assembly to rotatably support a plurality of discs; and
a plurality of servo heads coupled to a servo writer circuitry to record servo
information or patterns.

16. The servo writing apparatus of claim 14 wherein the at least one isolator includes a floating isolator body including the elastomeric damping element and the floating isolator body is interfaced with the fluid isolator assembly including a diaphragm to provide a transmission path between the rigid table and the frame
5 through the diaphragm of the fluid isolator assembly and the floating isolator body in series with the fluid isolator assembly.

17. The servo writing apparatus of claim 14 wherein the frame includes a first portion and a second raised portion elevated above the first portion and including at
10 least one isolator disposed between the first portion and the rigid table and at least one isolator disposed between the second raised portion and the rigid table.

18. A method for damping vibration comprising steps of:
supplying fluid pressure to a fluid isolator assembly to floatably support a
15 floating isolator body including an elastomeric damping element in series with the fluid isolator assembly; and
damping vibration through the fluid isolator assembly in series with the floating isolator body.

20 19. The method of claim 18 wherein the step of damping vibration comprises exchanging fluid through a fluid passageway of the fluid isolator assembly to damp vibration in series with the elastomeric damping element.

25 20. The method of claim 18 and the step of damping vibration dampens vibration while writing servo information to a disc